September 19, 2017

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed Satellite Service Systems and Related Matters, IB Docket No. 16-408

Dear Ms. Dortch:

On September 18, 2017, EchoStar Satellite Operating Corporation and Hughes Network Systems, LLC (collectively "EchoStar") met with Erin McGrath, Legal Advisor, Wireless, Public Safety, and International to Commissioner Michael O'Rielly, to discuss EchoStar's positions in the above captioned proceeding. EchoStar was represented by Brennan Price, Senior Principal Engineer, Regulatory Affairs, and outside counsel Bryan Tramont of Wilkinson Barker Knauer LLP.

The meeting participants discussed the attached talking points, which were provided to Ms. McGrath, setting out EchoStar's views on the draft order in this proceeding (circulated in advance of its consideration at the September 26, 2017, Open Commission Meeting) and recommendations for how the draft order could be improved.

Pursuant to the Commission's rules, this notice is being filed in the above-referenced dockets for inclusion in the public record. Please contact me should you have any questions.

Respectfully submitted,

/s/ Brennan T. Price

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Cc: Erin McGrath

Providing a Regulatory Regime That Enables Full and Efficient Use of Orbital and Spectral Resources for Both GSO and NGSO FSS Systems
IB Dkt. No. 16-408

- EchoStar and Hughes (collectively, "EchoStar") support the FCC's efforts to modernize its regulatory framework for non-geostationary satellite orbit ("NGSO"), fixed satellite service ("FSS") operations in a manner that will both facilitate deployment of new NGSO FSS systems and enable full, efficient use of orbital and spectral resources for all FSS systems.[1]

- The draft Order and FNPRM contains a number of important measures that should be adopted as part of any updated NGSO regulatory regime, but it also could be improved with respect to just a few issues, including moving forward with an FNPRM on above 30 GHz band issues.

EchoStar Supports Adopting the Following Measures Proposed in the Draft Order:

- A secondary FSS allocation in the 17.8-18.3 GHz band, allowing individually licensed and blanket-licensed earth station operations, subject to power flux density ("PFD") limits: The FSS industry requires access to additional spectrum to support growing user demands. While not satisfying the need for primary spectrum for this use, this will enable greater use of this band while allowing operators who can support secondary operation with access to much needed spectrum.

- A secondary NGSO FSS allocation in the 18.3-18.6 GHz and 19.7-20.2 GHz bands, allowing NGSO FSS operations on an unprotected, non-interference basis with respect to GSO FSS, along with compliance with equivalent power flux density ("EPFD") limits to protect GSO FSS: This provides access to additional spectrum for NGSO FSS operations.

[1] EchoStar is an investor in and partner with OneWeb and fully supports the mission of delivering affordable broadband globally. EchoStar is the nation's leading provider of consumer satellite broadband services with more than one million hard-to-reach subscribers in North America. EchoStar recently brought into service the highest capacity broadband satellite in the world – the EchoStar XIX satellite (a/k/a JUPITER 2) – with its new HughesNet Gen5 satellite internet service which delivers faster speeds, more data, and built-in Wi-Fi for consumers and small businesses across the continental U.S. and key areas within Alaska. In June 2017, just two months after the debut of the HughesNet Gen5 satellite Internet service, Hughes was already serving more than 100,000 homes and small businesses, including both new subscribers and upgrades. Subscribers in every continental U.S. state have been connected to the service. Press Release, HughesNet Gen5 Delivers True FCC-Defined Broadband, Attracts New Customers in Every Continental U.S. State, June 5, 2017 (available at https://www.echostar.com/Press/Newsandmedia/HughesNet%20Gen5%20Surpasses%20100000%20Subscribers%20In%20Just%20Two%20Months.aspx).

- Both a co-primary GSO FSS allocation and secondary NGSO FSS allocation in the 19.3-19.4 GHz and 19.6-19.7 GHz bands, subject to PFD limits to protect terrestrial fixed service ("FS") operations: The GSO FSS allocation will allow individually licensed earth stations on a co-primary basis and blanket-licensed earth stations on a secondary basis with respect to terrestrial FS.

- Codification of the International Telecommunication Union's ("ITU") EPFD limits, including aggregate EPFD limits, to protect Ka-band GSO FSS from NGSO FSS operations in the 17.8-30 GHz frequency range: This is critical to ensure that GSOs are protected from harmful interference from NGSO FSS operations.

- Streamlining EPFD demonstration requirements to allow NGSO FSS applicants to certify compliance with ITU EPFD limits: The record supports revising or eliminating outdated and unnecessary EPFD demonstration requirements, and replacing them with a streamlined certification requirement should be sufficient for ensuring EPFD compliance in most cases. As proposed in the draft Order, however, the certification requirement places too much faith on an applicant's EPFD compliance assessment and does not allow any opportunity for GSO FSS operators and others to independently verify the applicant's assessment. Accordingly, the proposed certification requirement should be slightly modified to: (i) require applicants to specify the basis for their certification of compliance (*e.g.*, based upon results or calculations generated from use of specific ITU-approved EPFD validation software); and (ii) provide the technical input parameters used in the software program to determine EPFD compliance. Additionally, upon FCC request, applicants should be required to submit the full calculations and results generated from use of ITU-approved software showing EPFD compliance.

- A revised two-part milestone approach requiring NGSO FSS licensees to launch and operate the following: (1) at least 50 percent of the authorized satellite constellation within six years of grant; and (2) the remainder of the authorized satellite constellation within three additional years, free of bond obligations. Licensees failing to meet the first milestone will be authorized only for a reduced number of satellites in use on the milestone date and will be required to forfeit their bond. This will ensure that scarce spectrum is not warehoused.

The Commission Should Revise and Clarify the Draft Order Regarding GSO-NGSO Sharing at 18.8-19.3/28.6-29.1 GHz or, at a Minimum, Seek Further Comment on a Default Mechanism for Resolving Coordination Disputes:

- The draft decision allowing GSO FSS operations in the 18.8-19.3 GHz and 28.6-29.1 GHz bands on a secondary or unprotected, non-interference (rather than co-primary) basis is premised upon apparently incorrect, inconsistent, or unclear statements.

    - As an initial matter, the draft Order (at ¶¶ 14-15) correctly recognizes that "ITU coordination requirements will continue to apply between *filings of different administrations*," and that "the ITU's Article 9 coordination procedures do not

apply between *filings from the same administration*." The "filings" noted in these statements refer only to satellite filings at the ITU, and not satellite license applications or petitions for declaratory ruling for U.S. market access filed with the FCC.

- The draft Order, however, then proceeds to state (at ¶ 15) that: (i) "the date of receipt of an ITU coordination request has no bearing on the priority relationship *between two U.S.-filed satellite systems, either at the ITU or with the Commission*," and (ii) "We upset no interests of existing GSO FSS operators … because under the current Commission rules *U.S.-authorized GSO FSS operations* in this band *have no status vis-à-vis U.S.-authorized NGSO FSS operations* anywhere in the world."

- To the contrary, ITU filing dates may determine priority (for international coordination and interference protection purposes) "between two U.S.-filed satellite systems" if, for example, one system is or will be authorized under FCC license and the other under FCC market access grant (or, alternatively, both systems are authorized under FCC market access grant, and both are authorized under ITU filings from different licensing administrations). In fact, the FCC typically grants satellite licenses and market access authorizations subject to completion of ITU coordination requirements. Thus, a U.S.-authorized GSO FSS operator may very well have international priority over a U.S.-authorized NGSO FSS operator if the GSO system has ITU date priority under ITU filings from a different administration. Consequently, such GSO FSS operator's expectations and interests would be harmed under FCC rules granting priority to NGSO FSS operations, regardless of priority under ITU coordination rules.

- If the FCC does not provide for co-primary status for GSO and NGSO operations in the 18.8-19.3 GHz and 28.6-29.1 GHz bands, as EchoStar previously proposed, the FCC should consider developing a default mechanism for resolving coordination disputes between NGSO and GSO FSS operators in these bands. Contrary to the draft Order's mischaracterization of EchoStar's proposal (at ¶ 16), additional public input is required to develop the record on whether and how to implement such default mechanism. Rather than summarily rejecting EchoStar's proposal, the Commission should incorporate it into a revised FNPRM.

The Draft FNPRM Should Be Revised to Address NGSO FSS Operations in the Above 30 GHz Bands:

- There are a number of issues that still must be addressed for NGSO systems operating in the above 30 GHz bands. At a minimum, the FCC should seek comment on EPFD limits for NGSO FSS operations in frequency bands above 30 GHz, including the V-band. Specifically, the Commission should consider adopting appropriate single-entry and aggregate EPFD limits for NGSO FSS operations on V-band and other frequencies above 30 GHz. Further, the Commission should propose interim or default EPFD limits comparable to those specified in Article 22 of the ITU Radio Regulations. The Article 22 EPFD limits (both single-entry and aggregate) have long been codified in the

FCC's rules for Ku-band NGSO FSS operations and, under the draft Order, will be further codified in FCC rules for Ka-band NGSO FSS operations. Thus, the Commission should seek comment on whether the Article 22 EPFD limits offer a reasonable default set of standards to apply to V-band operations until further technical review can be completed. The Commission should also seek comment on requiring applicants in these bands to demonstrate and/or certify compliance with interim/default EPFD limits comparable to the Article 22 EPFD limits.